

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



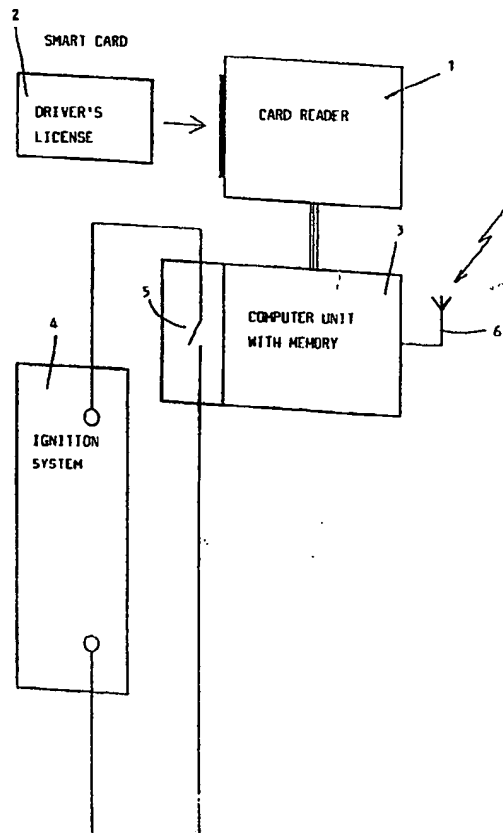
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁵ : B60R 25/04, G07C 5/00	A1	(11) International Publication Number: WO 94/12372 (43) International Publication Date: 9 June 1994 (09.06.94)
(21) International Application Number: PCT/SE93/01008 (22) International Filing Date: 23 November 1993 (23.11.93) (30) Priority Data: 9203607-8 1 December 1992 (01.12.92) SE (71)(72) Applicant and Inventor: GOLDBERG, Fred [SE/SE]; Materialdata AB, Box 1210, S-181 24 Lidingö (SE). (74) Agent: JOHANSSON, Lars, E.; L.A. Groth & Co. KB, Box 6107, S-102 32 Stockholm (SE).		(81) Designated States: AU, FI, NO, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> <i>In English translation (filed in Swedish).</i>

(54) Title: **APPARATUS IN AN AUTHORIZATION CHECKING SYSTEM FOR VEHICLES**

(57) Abstract

In an apparatus in an authorization checking system for vehicles, comprising a checking unit (1, 3) which is adapted to check whether a driver's license, an operator card or a vehicle card (2), read by the checking unit (1, 3), is programmed in the checking unit (1, 3) as being authorized for driving the vehicle before start of the vehicle is enabled, the checking unit (1, 3) is programmable by means of radio signals.



Best Available Copy

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	GB	United Kingdom	MR	Mauritania
AU	Australia	GE	Georgia	MW	Malawi
BB	Barbados	GN	Guinea	NE	Niger
BE	Belgium	GR	Greece	NL	Netherlands
BF	Burkina Faso	HU	Hungary	NO	Norway
BG	Bulgaria	IE	Ireland	NZ	New Zealand
BJ	Benin	IT	Italy	PL	Poland
BR	Brazil	JP	Japan	PT	Portugal
BY	Belarus	KE	Kenya	RO	Romania
CA	Canada	KG	Kyrgyzstan	RU	Russian Federation
CF	Central African Republic	KP	Democratic People's Republic of Korea	SD	Sudan
CG	Congo	KR	Republic of Korea	SE	Sweden
CH	Switzerland	KZ	Kazakhstan	SI	Slovenia
CI	Côte d'Ivoire	LI	Liechtenstein	SK	Slovakia
CM	Cameroon	LK	Sri Lanka	SN	Senegal
CN	China	LU	Luxembourg	TD	Chad
CS	Czechoslovakia	LV	Latvia	TG	Togo
CZ	Czech Republic	MC	Monaco	TJ	Tajikistan
DE	Germany	MD	Republic of Moldova	TT	Trinidad and Tobago
DK	Denmark	MG	Madagascar	UA	Ukraine
ES	Spain	ML	Mali	US	United States of America
FI	Finland	MN	Mongolia	UZ	Uzbekistan
FR	France			VN	Viet Nam
GA	Gabon				

APPARATUS IN AN AUTHORIZATION CHECKING SYSTEM FOR VEHICLES

TECHNICAL FIELD

The invention relates to an apparatus in an
5 authorisation checking system for a vehicle, comprising a
checking unit which is adapted to check whether a driver's
license, an operator card or a vehicle card, read by the
checking unit, is programmed in the checking unit as being
authorized for driving the vehicle before start of the
10 vehicle is enabled.

BACKGROUND ART

A person who has had his/her driver's license
withdrawn due to the fact that he/she has been driving
15 intoxicated, can today, without any problem, continue to
drive without his/her driver's license.

In order to eliminate this problem, different
authorization checking systems have been proposed.

An example hereof is known from WO 84/03758. In
20 this known system, the vehicle is provided with a control
unit which reads an identity card/driver's license in order
to check whether the driver is authorized to drive the
vehicle or not. The vehicle can be started only if such
authorization has been established.

25 WO 88/03884 describes an authorization checking
system for vehicles where the checking function is integrated
with the control system for the motor's ignition and fuel
injection.

From GB 2 218 243 a vehicle security system is
30 known, which triggers an alarm upon attempts for unauthorized
use and in which the vehicle can be immobilized by a radio
signal from e.g. a base station.

US 4,697,171 describes i.a. an electronic lock for
vehicles, which is combined with an alcohol sensing part
35 which prevents start of the vehicle in case the driver is
intoxicated.

DISCLOSURE OF THE INVENTION

The object of the invention is to bring about an apparatus which not only prevents a vehicle from being started and driven by an unauthorized person, e.g. a person
5 who for some reason has had his/her driver's license withdrawn, but also simplifies the process of changing the authorization for different persons to operate that vehicle.

Persons without a driver's license or persons who have had their driver's license withdrawn, thus, should not
10 be able to start and drive any vehicle at all.

This is attained by the above mentioned apparatus according to the invention mainly in that the checking unit is programmable by means of radio signals.

Thus, in connection with e.g. a withdrawal of a
15 driver's license, the vehicle does not have to be handed over to e.g. the police authority for reprogramming the checking unit, which is of great advantage. Also, it will be simple to reprogram the checking unit so that no one is authorized to drive a certain vehicle in case vehicle tax and/or insurance
20 has not been paid for the vehicle in question or the vehicle has not been inspected within a prescribed period of time.

DESCRIPTION OF DRAWING

The invention will be described more in detail
25 below with reference to the attached drawing on which the single figure shows a block diagram of a preferred embodiment of the apparatus according to the invention.

PREFERRED EMBODIMENT

30 The figure shows a block diagram of an apparatus according to the invention in an authorization checking system for vehicles.

1 denotes a card reader, known per se, for reading driver's licenses, operator cards or vehicle cards, in the
35 following all called driver's licenses, in order to check whether the driver's license read, authorizes the bearer of the driver's license to operate the vehicle in question.

2 denotes a driver's license which is in the form of an electro-magnetic, electronic or electro-optical card of a type known per se, which is inserted into the card reader 1 which is mounted on the dashboard (not shown) of the vehicle or in another place which is easily accessible to the driver.

The card reader is associated with a computer unit 3 with a memory which is preprogrammed to authorize certain driver's licenses to operate the vehicle, e.g. the driver's licenses belonging to members of one the same family.

The driver's license 2 can replace the ignition key of the vehicle, whereby the vehicle can be started in that the card 2 e.g. is pushed further into a card reader 1. Alternatively a vehicle may be started by pushing a separate button. Of course, the card 2 can also be a complement to a key, and also be associated with a keyboard for keying in a code in connection with the reading of the card.

The computer unit 3 is in manner known per se connected to the vehicle ignition system which in the figure is merely indicated schematically by means of block 4.

That the ignition system 4 is enabled when an authorized driver's license 2 is read by the card reader 1 and checked by the computer unit 3, is schematically indicated in the figure by the switch 5 which is closed only after that the computer unit 3 has verified the authorization of a driver's license 2 inserted into the card reader 1.

According to the invention, the computer unit 3 is remotely programmable by means of radio signals as indicated by an antenna 6.

By means of such a computer unit, e.g. the authorization of a new owner of the vehicle can be remotely programmed by e.g. the police authority or some other authority when the change of owner is reported without the new owner having to appear with the vehicle at the authority in question.

In case the vehicle in question has been stopped in a manner known e.g. from the above GB 2 218 243 by means of a radio signal in connection with e.g. a theft, a new

authorization can be programmed by a radio signal from the police authority for a certain authorized person to be able to pick up the vehicle.

Thus, by means of the apparatus according to the invention, the reprogramming will be easier in case it is desired to prevent someone from operating the vehicle as well as in case it is desired to authorize a new person to operate a vehicle.

According to the invention, the memory of the computer unit 3 is adapted to store information about the identity of a predetermined number of the most recent driver's licenses 2 which have been read by the card reader 1 together with information about at least the date, time and meter indication when the respective driver's licenses were read.

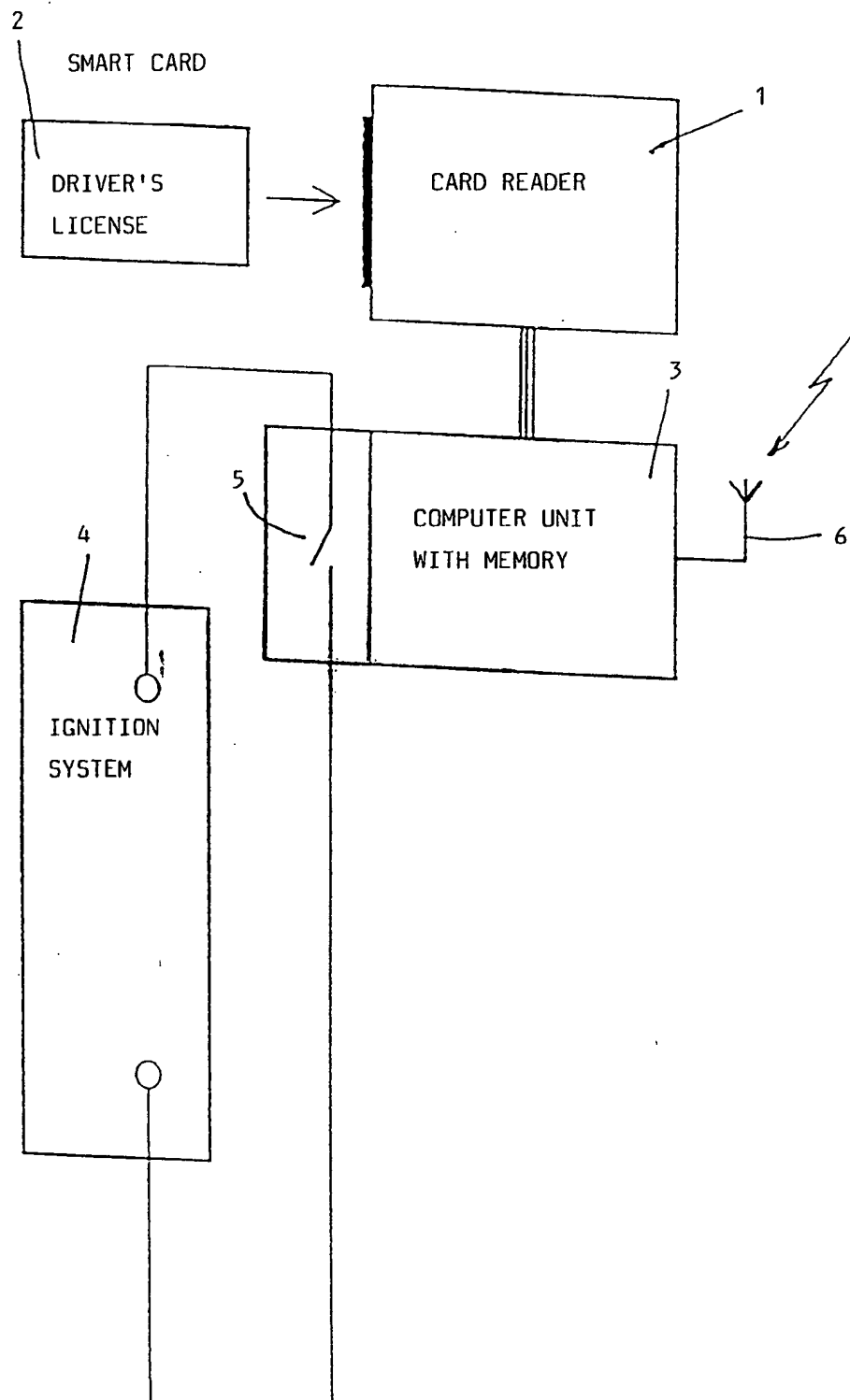
When this information is read from the memory, a driver's day-book is directly obtained for the respective authorized driver.

The authorization checking system can alternatively be so designed that the driver's license, operator card or vehicle card contains the code which gives authorization to the respective vehicle.

CLAIMS

1. Apparatus in an authorization checking system for a vehicle, comprising a checking unit (1, 3) which is adapted
5 to check whether a driver's license, an operator card or a vehicle card (2), read by the checking unit (1, 3), is programmed in the checking unit (1, 3) as being authorized for driving the vehicle before start of the vehicle is enabled, **characterized in** that the checking unit (1, 3) is
10 programmable by means of radio signals.

2 Apparatus according to claim 1, **characterized in** that the checking unit (1, 3) is adapted to store information about the identity of a predetermined number of the driver's
15 licenses (2) most recently read by the checking unit (1, 3) together with information about at least the date, time and meter indication at the respective reading.



INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 93/01008

A. CLASSIFICATION OF SUBJECT MATTER

IPC5: B60R 25/04, G07C 5/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC5: B60R, G07C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO, A1, 8403785 (ERNST, HANS-HELMUT), 27 Sept 1984 (27.09.84), see the whole document --	1,2
Y	EP, A2, 0282339 (SECURITY SERVICES PLC), 14 Sept 1988 (14.09.88), column 2, line 60 - column 4, line 65 --	1
A	EP, A1, 0212842 (CITY WHEELS LIMITED), 4 March 1987 (04.03.87), page 6, line 23 - page 7, line 26 --	1,2

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "B" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

Date of mailing of the international search report

1 March 1994

04-03-1994

Name and mailing address of the ISA/
Swedish Patent Office
Box 5055, S-102 42 STOCKHOLM
Facsimile No. +46 8 666 02 86

Authorized officer

Håkan Sandh
Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 93/01008

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP, A1, 0139340 (KIENZLE APPARATE GMBH), 2 May 1985 (02.05.85), page 10, line 1 - page 15, line 27 -----	2

INTERNATIONAL SEARCH REPORT
Information on patent family members

28/01/94

International application No.
PCT/SE 93/01008

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO-A1-	8403785	27/09/84	DE-A-	3308803	13/09/84
			EP-A-	0135583	03/04/85
EP-A2-	0282339	14/09/88	GB-A,B-	2202354	21/09/88
			US-A-	4926665	22/05/90
EP-A1-	0212842	04/03/87	DE-A-	3682000	21/11/91
			GB-A,B-	2178211	04/02/87
			JP-A-	62063394	20/03/87
EP-A1-	0139340	02/05/85	DE-A-	3338113	09/05/85
			DE-A-	3473950	13/10/88
			EP-A,B-	0188429	30/07/86
			SE-T3-	0188429	

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☒ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.